

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

Date of Report: 12/29/09  
Date Received: 12/15/09  
Project: 1198001.010.011, F&BI 912133  
Date Extracted: NA  
Date Analyzed: 12/16/09

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR pH  
USING EPA METHOD 9040C**

Sample ID  
Laboratory ID

pH

CB331707  
912133-01

6.97

CB330001  
912133-02

6.89

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Date of Report: 12/29/09  
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Project: 1198001.010.011, F&BI 912133  
Date Extracted: NA  
Date Analyzed: 12/16/09

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TURBIDITY  
USING METHOD SM2130B  
Results Reported as NTU**

<u>Sample ID</u> Laboratory ID	<u>Date</u> <u>Sampled</u>	<u>Time</u> <u>Sampled</u>	<u>Turbidity</u>
CB331707 912133-01	12/15/09	15:10	39.3
CB330001 912133-02	12/15/09	14:58	26.0
Method Blank			<0.5

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## ENVIRONMENTAL CHEMISTS

### Analysis For Total Metals By EPA Method 200.8

Client ID: CB331707  
Date Received: 12/15/09  
Date Extracted: 12/16/09  
Date Analyzed: 12/17/09  
Matrix: Water  
Units: ug/L (ppb)

Client: Landau Associates  
Project: 1198001.010.011, F&BI 912133  
Lab ID: 912133-01  
Data File: 912133-01.053  
Instrument: ICPMS1  
Operator: AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	100	60	125
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Copper	414
Zinc	1,120
Lead	27.8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: CB330001  
Date Received: 12/15/09  
Date Extracted: 12/16/09  
Date Analyzed: 12/17/09  
Matrix: Water  
Units: ug/L (ppb)

Client: Landau Associates  
Project: 1198001.010.011, F&BI 912133  
Lab ID: 912133-02  
Data File: 912133-02.054  
Instrument: ICPMS1  
Operator: AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	96	60	125
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Copper	146
Zinc	143
Lead	25.3

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Landau Associates
Date Received:	NA	Project:	1198001.010.011, F&BI 912133
Date Extracted:	12/16/09	Lab ID:	I9-549 mb
Date Analyzed:	12/17/09	Data File:	I9-549 mb.041
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	96	60	125
Holmium	94	60	125

Analyte:	Concentration ug/L (ppb)
Copper	<1
Zinc	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/29/09  
Date Received: 12/15/09  
Project: 1198001.010.011, F&BI 912133  
Date Extracted: NA  
Date Analyzed: 12/18/09

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL SUSPENDED SOLIDS  
BY METHOD 2540D**

Results Reported as mg/L (ppm)

<u>Sample ID</u> Laboratory ID	Total Suspended <u>Solids</u>
CB331707 912133-01	87
CB330001 912133-02	60
Method Blank	<10

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

Date of Report: 12/29/09

Date Received: 12/15/09

Project: 1198001.010.011, F&BI 912133

**QUALITY ASSURANCE RESULTS  
FROM THE ANALYSIS OF WATER SAMPLES  
FOR pH BY METHOD 9040C**

Laboratory Code: 912120-01 (Duplicate)

Analyte	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
pH	8.27	8.34	1	0-20

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

Date of Report: 12/29/09

Date Received: 12/15/09

Project: 1198001.010.011, F&BI 912133

**QUALITY ASSURANCE RESULTS  
FROM THE ANALYSIS OF WATER SAMPLES FOR TURBIDITY  
USING METHOD SM2130B**

Laboratory Code: 912120-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Turbidity	NTU	0.6	0.6	0	0-20



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Date of Report: 12/29/09

Date Received: 12/15/09

Project: 1198001.010.011, F&BI 912133

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 912135-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Copper	ug/L (ppb)	<1	<1	nm	0-20
Zinc	ug/L (ppb)	108	106	2	0-20
Lead	ug/L (ppb)	<1	<1	nm	0-20

Laboratory Code: 912135-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Copper	ug/L (ppb)	20	<1	108	50-150
Zinc	ug/L (ppb)	50	108	108 b	50-150
Lead	ug/L (ppb)	10	<1	101	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Copper	ug/L (ppb)	20	106	70-130
Zinc	ug/L (ppb)	50	105	70-130
Lead	ug/L (ppb)	10	102	70-130

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**ENVIRONMENTAL CHEMISTS**

Date of Report: 12/29/09

Date Received: 12/15/09

Project: 1198001.010.011, F&BI 912133

**QUALITY ASSURANCE RESULTS  
FROM THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL SUSPENDED SOLIDS  
BY METHOD 2540D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
TSS	mg/L	50	91	98	67-128	7

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Charlene Morrow, M.S.  
Yelena Aravkina, M.S.  
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Kurt Johnson, B.S.

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December 23, 2009

Joe Kalmar, Project Manager  
Landau Associates  
130 2<sup>nd</sup> Ave. S.  
Edmonds, WA 98020

Dear Mr. Kalmer:

Included are the results from the testing of material submitted on December 15, 2009 from the 0273015-010-011, F&BI 912134 project. There are 9 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Gerry Thompson  
NAA1223R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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e-mail: fbi@isomedia.com

December 29, 2009

Joe Kalmer, Project Manager  
Landau Associates  
130 2<sup>nd</sup> Ave. S.  
Edmonds, WA 98020

Dear Mr. Kalmer:

Included are the results from the testing of material submitted on December 15, 2009 from the 1198001.010.011, F&BI 912133 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Gerry Thompson  
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FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 15, 2009 by Friedman & Bruya, Inc. from the Landau Associates 1198001.010.011, F&BI 912133 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Landau Associates</u>
912133-01	CB331707
912133-02	CB330001

The samples were sent to Aquatic Research for oil and grease and hardness analyses. Review of the enclosed report indicates that all quality assurance was acceptable.

All quality control requirements were acceptable.